

Stream Definitions

Bankfull Depth: The depth of bankfull discharge expected during a storm event, which will cause water to flow onto the floodplain.

Bankfull Discharge: The dominant channel-forming flow resulting from a 1 – 2 year – 24-hour storm event (defined below).

Bankfull Width: The width of the water flow needed to accommodate bankfull discharge during a storm event, which extends onto the floodplain.

Berm: An earthen mound that is elevated above the surrounding ground. Berms are typically used to keep water in or out of an area.

Culvert: A pipe, concrete or plastic, to allow water to pass under a road or path. It can be used to redirect stormwater or a stream. If not sized correctly, the culvert becomes a choke point for water flow during storm events causing water to backup and possibly run over the road or path.

Drainage Area: The acreage of land upstream that drains to a specific point of interest on a stream. The surface types within a drainage area will determine the volume of runoff expected at designated location.

Energy Dissipation: The use of hard surfaces to withstand the impact of water flow at pipe outlets and below vertical drops within the stream channel.

Entrenched Stream: A stream that no longer has access to a floodplain during a typical storm event. Often characterized by vertical banks and a narrow and deep channel.

Erosion Control Matting: It is 100% biodegradable matting made of a straw matrix with a natural fiber webbing, such as jute or coir. Matting can also be created by applying a dense layer of straw with a 700 gram coir matting over the straw. Matting should be staked with wood stakes to prevent it from moving or being lifted.

Historic or Topographic or Abandoned Floodplains: Floodplains at a higher elevation than the hydraulic floodplain. The stream can no longer access these floodplains during a typical storm event.



Henderson County Soil & Water Conservation District

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Hydraulic Floodplain or Bankfull Bench: Land accessed by a stream during a storm event when bankfull discharge is reached. Typically, a wide flat area on either side of the stream, where flow slows down and deposition of sediment and debris occurs.

Impervious Surfaces: Hard surfaces that prevent or retard surface water or runoff from entering the soil below, typical examples are concrete and asphalt. These surfaces have a low permeability or infiltration rate, which means more water runs off these surfaces, e.g. traditional pavement or concrete.

Low-Water Stream Crossing (ford style): A stream crossing where the road base is the stream bottom that allows vehicles to cross the channel during low flows.

Meander: The S-curve pattern of rivers and streams is its meander, which controls the water slope, and creates pools and riffles along the stream length. A stream will naturally add curves back into its pattern if the stream had previously been straightened.

Multi-Culvert System: Utilizes a larger center culvert to carry the normal stream flow with smaller culverts on each side at the floodplain elevation to transport the additional flow from storm events.

Off-Channel Wetland: A channel adjacent to a stream or river accessed when water level within the stream or river reaches bankfull depth. The water passes through the channel during a storm event. This relieves some of the pressure on the stream to convey the excess storm water volume. It will support a wide variety of plant life and provide habitat for aquatic and terrestrial life.

Open-Bottom Culvert: A wide arched opening over a stream or ditch which allows water to flow under a road or path. The arch does not impede the water flow through the channel during storm events.

Pervious or Permeable Surfaces: Surfaces that allow water to infiltrate or pass through the surface. These surfaces have a high permeability or infiltration rate, which means less water runs off these surfaces, e.g. grass or sand. New surfacing materials are being developed, such as permeable pavement and concrete, which have significant pore space within the material to allow water to flow through the material.

Pool: Deeper areas within a stream where the water flow slows and creates habitat for fish and other aquatic animals.



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Railcar Bridge: It is a flat railcar that can span a larger distance without any supports in the channel. It can also handle the weights of vehicles and equipment, can accommodate a wide floodplain and can be used in remote areas where typical bridge construction may be difficult or too costly.

Rain Garden or Backyard Wetland: Low areas in a landscape where runoff can collect temporarily to allow for water infiltration into the soil below. Plants within the area are suited for periodic flooding. These are designed based on area of runoff collected.

Riffle: Short, shallow areas of rough stream bed with high turbulence which mixes oxygen into the water and provides an area for aquatic food and spawning.

Runoff: Rainwater that collects on a surface and moves across the surface before infiltrating into the ground or entering a stormwater collection system or a surface water body.

Storm Event: A 2 year – 24-hour storm is a storm that occurs on average every two years over a 24-hour period. This storm event is used to define the characteristics of a stream. Larger storm events are used when designing structures in and around streams. In Henderson County, the 2 year – 24-hour storm event is approximately 4.13 inches of rainfall.

Vegetated or Riparian Buffer: The zone of vegetation adjacent to streams, rivers or wetlands that filters sediment, debris and nutrients from runoff and infiltrates water into the soil.

Vegetation can be a combination of grasses, bushes and trees. Buffers protect both the banks and the water quality.

